

Serial No. 10/724,803
October 28, 2005
Reply to the Office Action dated August 30, 2005
Page 2 of 7

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (canceled).

Claim 2 (previously presented): A method of forming a thick-film wiring on a substrate comprising:

a first step of filling a photosensitive-electroconductive paste into a pattern groove formed on the surface of a light-transmissive plate, the pattern groove corresponding to a desired thick-film wiring pattern;

a second step of irradiating the photosensitive-electroconductive paste filled in the pattern groove with light-rays from the front and back sides of the plate to cause the photosensitive-electroconductive paste to harden until the peripheral surface of the electroconductive paste has a predetermined hardness;

a third step of transferring the photosensitive-electroconductive paste hardened in the plate directly to the substrate or via an intermediate piece to the substrate; and

a fourth step of firing the photosensitive-electroconductive paste, whereby the thick-film wiring is formed on the substrate; wherein

the plate is made of a transparent polyethyleneterephthalate film.

Claim 3 (original): A method of forming a thick-film wiring according to Claim 2, wherein in the second step, light having a wavelength of at least about 350 nm irradiates the photosensitive-electroconductive paste from the front and back sides of the plate.

Serial No. 10/724,803
October 28, 2005
Reply to the Office Action dated August 30, 2005
Page 3 of 7

Claim 4 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein the pattern groove of the plate is processed with a laser beam having a wavelength shorter than the wavelength of the light used in the second step, and the plate has a transmittance spectrum which is lower than that for the laser beam and which is higher than the light used in the second step.

Claim 5 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein the intermediate piece is made of a light-transmissive material;

the second step includes irradiating light from the back side of the plate and from the back side of the intermediate piece while the intermediate piece and the plate overlap each other; and

the third step includes transferring the photosensitive-electroconductive paste hardened in the plate to the intermediate piece, and then, transferring the photosensitive-electroconductive paste from the intermediate piece to the substrate.

Claim 6 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein, in the second step, the quantity of light irradiated from the front side of the plate is larger than the quantity of light irradiated from the back side of the plate.

Claim 7 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein the plate is a flexible plate made of resin, and the resin plate is bonded to a support which is light-transmissive and non-flexible.

Claim 8 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein a release agent is coated on an inner surface of the pattern groove of the plate.

Claim 9 (currently amended): A method of producing a laminated electronic component comprising the steps of:

Serial No. 10/724,803
October 28, 2005
Reply to the Office Action dated August 30, 2005
Page 4 of 7

preparing a substrate made of a green sheet;
transferring photosensitive-electroconductive paste onto the substrate directly or via an intermediate piece;
repeating the steps of preparing and transferring to form a laminate of plural substrates having the photosensitive-electroconductive paste transferred thereto; and
firing the laminate; wherein
the photosensitive-electroconductive paste is formed by thea method of forming a thick-film wiring ~~defined in Claim 2~~ comprising:
a first step of filling the photosensitive-electroconductive paste into a pattern groove formed on the surface of a light-transmissive plate, the pattern groove corresponding to a desired thick-film wiring pattern;
a second step of irradiating the photosensitive-electroconductive paste filled in the pattern groove with light-rays from the front and back sides of the plate to cause the photosensitive-electroconductive paste to harden until the peripheral surface of the electroconductive paste has a predetermined hardness;
a third step of transferring the photosensitive-electroconductive paste hardened in the plate directly to the substrate or via an intermediate piece to the substrate; and
a fourth step of firing the photosensitive-electroconductive paste, whereby the thick-film wiring is formed on the substrate; wherein
the plate is made of a transparent polyethyleneterephthalate film.

Claim 10 (original): A method of forming a thick-film wiring according to Claim 9, wherein the pattern groove of the plate is processed with a laser beam having a wavelength shorter than the wavelength of the light used in the second step; and
the plate has a transmittance spectrum which is lower than the laser beam and which is higher than the light used in the second step.

Serial No. 10/724,803
October 28, 2005
Reply to the Office Action dated August 30, 2005
Page 5 of 7

Claim 11 (original): A method of forming a thick-film wiring according to Claim 9, wherein the intermediate piece is made of a light-transmitting material;

the second step includes irradiating light from the back side of the plate and from the back side of the intermediate piece while the intermediate piece and the plate overlap each other; and

the third step includes transferring the photosensitive-electroconductive paste hardened in the plate to the intermediate piece, and then, transferring the photosensitive-electroconductive paste from the intermediate piece to the substrate.

Claim 12 (original): A method of forming a thick-film wiring according to Claim 9, wherein, in the second step, the quantity of light irradiated from the front side of the plate is larger than the quantity of light irradiated from the back side of the plate.

Claim 13 (original): A method of forming a thick-film wiring according to Claim 9, wherein the plate is a flexible plate made of resin, and
the resin plate is bonded to a support which is light-transmitting and non-flexible.

Claim 14 (original): A method of forming a thick-film wiring according to Claim 9, wherein a release agent is coated on an inner surface of the pattern groove of the plate.

Claim 15 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein the plate is an intaglio plate.

Claim 16 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein a surface of the plate is coated with a release agent.

Claim 17 (original): A method of forming a thick-film wiring according to Claim 16, wherein the release agent is a fluororesin.

Serial No. 10/724,803
October 28, 2005
Reply to the Office Action dated August 30, 2005
Page 6 of 7

Claim 18 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein a cross-sectional shape of the pattern groove is a trapezoid having side walls with a predetermined tapering-angle.

Claim 19 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein a surface of the substrate is coated with an adhesive.

Claim 20 (previously presented): A method of forming a thick-film wiring according to Claim 2, wherein the plate is made of glass.